What is claimed is:

1. An electrode structure for a gas discharge laser, comprising:

an electrode body capable of functioning as one of an anode and a cathode in order to energize a gas mixture in the discharge chamber, the electrode body including a shoulder portion; and

a ceramic spoiler coupled with the shoulder portion of said electrode body in order to prevent arcing between the shoulder portion and a component of the discharge chamber.

2. An electrode structure according to claim 1, wherein:

the ceramic spoiler includes a tongue portion capable of being received by a channel in said electrode body in order to couple the ceramic spoiler with the electrode body.

3. An electrode structure according to claim 1, wherein:

the electrode body further includes a nose portion for energizing the gas mixture, the shoulder portion being positioned on either side of the nose portion.

4. An electrode structure according to claim 1, wherein:

the nose portion of the electrode body has a length that provides for a proper discharge while limiting the effect on a flow of the gas mixture in the discharge chamber.

5. An electrode structure according to claim 1, wherein:

at least a portion of the ceramic spoiler exposed to the gas mixture has a substantially smooth finish, in order to minimize turbulence in the gas mixture.

6. An electrode structure according to claim 1, wherein:

at least a portion of the ceramic spoiler exposed to the gas mixture is shaped to tangentially follow a flow of gas mixture through the discharge chamber.

7. An electrode structure according to claim 2, further comprising:

a mounting structure positioned in the channel of the electrode body, the mounting structure capable of flexibly holding the tongue portion of the spoiler in the channel.

8. An electrode structure according to claim 7, wherein:

the mounting structure is a snap-on mounting structure including a mounting portion and at least one clip, each clip having an extending portion capable of pressing against the tongue portion of the spoiler in order to hold the tongue firmly in place relative to the channel.

9. An electrode structure according to claim 7, wherein:

said mounting structure is made of a Copper-Beryllium alloy and covered by a nickel layer.

10. An electrode structure according to claim 7, wherein:

the mounting structure is sufficiently flexible to allow for thermal expansion and contraction of at least one of the electrode body and ceramic spoiler.

11. An excimer or molecular fluorine laser system, comprising:

a resonator including therein a discharge chamber filled with a gas mixture, the discharge chamber including at least one window at an end of the discharge chamber for sealing the discharge chamber and for transmitting a laser pulse; and

a pair of discharge electrodes in the discharge chamber and connected to a discharge circuit for energizing the gas mixture and generating the laser pulse, each discharge electrode including a conductive structure having a first surface region that is exposed to the gas mixture in order to impart electrical energy to the gas mixture

and generate the laser pulse, and a second surface region having an insulating member coupled thereto in order to prevent arcing between the second surface region and a component of the discharge chamber.

12. A laser system according to claim 10, wherein:

the insulating member coupled to the second surface region of the conductive structure is a ceramic spoiler.

13. A laser system according to claim 12, wherein:

the ceramic spoiler includes a tongue portion capable of being received by a channel in said conductive structure in order to couple the ceramic spoiler with the conductive structure.

14. A laser system according to claim 11, further comprising:

at least one mounting structure capable of flexibly coupling the insulating member with the conductive structure.

15. A laser system according to claim 11, further comprising:

at least one pre-ionization unit including a plurality of pre-ionization pins positioned in said discharge chamber and capable of energizing the gas mixture, and wherein the insulating member prevents arcing between the second surface region and the pre-ionization pins.

16. A laser system according to claim 11, wherein:

said first surface region includes a protruding nose portion capable of maintaining an appropriate gap distance between the pair of discharge electrodes.

17. A laser system according to claim 11, further comprising:

a blower for circulating the gas mixture between the pair of discharge electrodes.

18. A laser system according to claim 17, further comprising:
at least two bearings for supporting said blower.

19. A laser system according to claim 18, wherein:
said bearings are made of a Cronidur material.

20. A laser system according to claim 18, wherein:
said bearings are made of a high nitrogen-alloyed martensitic steel.

21. A laser system according to claim 18, further comprising:
a dry film lubricant for lubricating said at least two bearings supporting said blower.

22. A laser system according to claim 21, wherein:
the dry film lubricant is a modified tungsten disulfide.

23. A laser system according to claim 21, wherein:
the dry film lubricant is a Dicronite lubricant.

24. A laser system according to claim 18, wherein:
said at least two bearings are selected from the group consisting of ceramic ball bearings and ceramic roller bearings.

25. An electrode structure for a gas discharge laser, comprising:
a conductive structure having first and second surface regions, the first surface region capable of imparting electrical energy to a gas mixture in the laser discharge chamber in order to generate a laser pulse; and

an insulating member coupled to the second surface region of the conductive structure in order to prevent arcing between the second surface region and a component of the discharge chamber.

26. An electrode structure according to claim 25, wherein:

the insulating member coupled to the second surface region of the conductive structure is a ceramic spoiler.

27. An electrode structure according to claim 26, wherein:

the ceramic spoiler includes a tongue portion capable of being received by a channel in said conductive structure in order to couple the ceramic spoiler with the conductive structure.

28. An electrode structure according to claim 25, further comprising:

at least one mounting structure capable of flexibly coupling the insulating member with the conductive structure.

29. An electrode structure according to claim 28, wherein:

the mounting structure is a snap-on mounting structure including a mounting portion and at least one clip, each clip having an extending portion capable of pressing against the insulating member in order to hold the insulating member firmly in place relative to the conductive structure.

30. A method for preventing arcing in a laser system, comprising:

applying an electrical pulse to a pair of electrodes in a discharge chamber in order to energize a gas mixture in the chamber and generate a laser pulse; and

coupling an insulating member to a first electrode of the pair of electrodes in order to prevent arcing between the pair of electrodes in the gas mixture after the generation of the laser pulse.

31. A method according to claim 30, further comprising:

applying an electrical pulse to pre-ionization pins in the discharge chamber in order to pre-ionize the gas mixture, the insulating member being further capable of preventing arcing between the pre-ionization pins and the first electrode.

32. A method according to claim 30, further comprising:

coupling an insulating member to a second electrode of the pair of electrodes.

33. A method according to claim 30, wherein:

coupling the insulating member to the first electrode includes using at least one mounting structure capable of flexibly coupling the insulating member with the first electrode.

34. A method according to claim 30, further comprising:

circulating the gas mixture between the pair of electrodes using a blower.

35. A method according to claim 34, further comprising:

using high nitrogen-alloyed martensitic steel bearings to support the blower.

36. A method according to claim 35, further comprising:

using a modified tungsten disulfide dry film lubricant to lubricate the bearings.